User's Manual for CyberShield

CS36A12V2

Bundled kit
(CA50A48V2 + CS36D12V)

IMPORTANT SAFETY WARNINGS
(SAVE THESE INSTRUCTIONS)

This manual contains important instructions regarding the installation and operation of this device. Read this manual thoroughly before attempting to unpack, install or operate this device

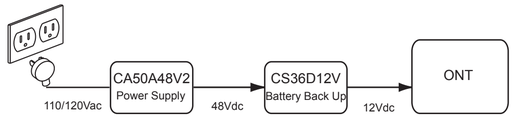
CAUTION! To prevent the risk of fire or electric shock, install in a temperature and humidity controlled indoor area free of conductive contaminants. (Please see specifications for acceptable temperature and humidity range.)

CAUTION! To reduce the risk of electric shock, do not remove the cover except to service the battery. No user serviceable parts are inside except the battery.

INTRODUCTION

The CS36A12V2 is another excellent UPS in CyberPower's CyberSheild line of reliable Optical Network Terminal (ONT) power solutions. The CS36A12V2 provides increased flexibility and cost effectiveness by separating the power supply unit (CA50A48V2) from the battery back up unit (CS36D12V). The power supply plugs into a 110/120Vac outlet. It converts the power to 48Vdc, which is then fed through a power cord to the battery back up unit. The battery back up unit feeds 12Vdc to the ONT.

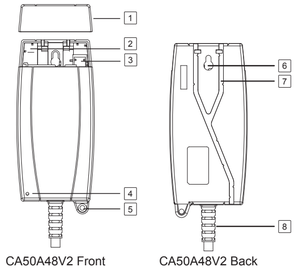
SYSTEM BLOCK DIAGRAM



ENCLOSURE INSTALLATION

Carefully follow these instructions during the installation of this device:
1.) Carry out the installation in a safe area that is free of excessive dust and has adequate airflow.
2.) Screws must be appropriate for total weight of the UPS unit and the mounting surface material
3.) Do not operate the UPS where the temperature and humidity are outside the specified limits.
(Refer to specifications in this manual.)

OVERVIEW (CA50A48V2)

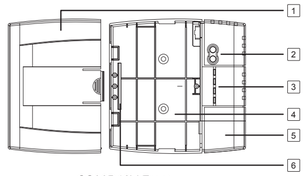


CA50A48V2 Front

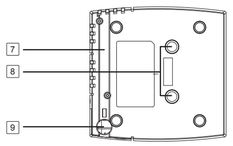
CA50A48V2 Back

1. Power Connector Compartment Cover
2. Strain Relief Lip
3. 2 Pin IDC Connector
4. Power LED Indicator
5. Screw Hole
6. Keyhole Screw Slot
7. Cable Channel
8. Input Power Cord (8 ft.)

OVERVIEW (CS36D12V)



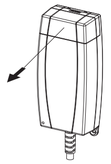
CS36D12V Front



CS36D12V Back

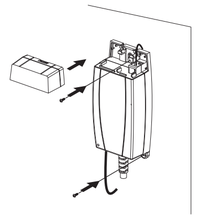
1. Battery Compartment Cover
2. Control Buttons (Alarm Silence / Battery Emergency Use)
3. LED Indicators (Auxiliary Power Source / Replace Battery / Battery Power / System Status)
4. Battery Compartment
5. 9 Pin Connector Compartment Cover
6. Battery Release Latch
7. Interconnection & Power Cable Channel
8. Keyhole Screw Slot
9. Pass Through Hole for Interconnection & Power Cable

CA50A48V2 Installation Guide



Step 1:
a. Open the power connector compartment cover

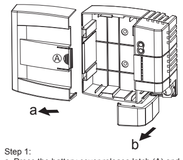
Step 2:
a. Install output power cable to the 2 position IDC connector (red wire to positive, black wire to negative).
b. Thread the power cable along the back of the power connector cover. Wrap the power cable around the strain relief lip. Insert the cable through one of the cable channels to exit the compartment.
c. Insert the power cable into the cable channel on the back of the unit.



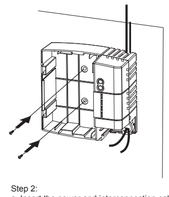
Step 3:
a. Place screw in keyhole screw slot and tighten half way.
b. Slide unit so that the screw rests against the narrow end of the slot.
c. Place second screw into the screw hole and tighten securely.
d. Tighten keyhole slot screw securely.
e. Close the power connector compartment cover

NOTE : Please use appropriate size screws to mount the CS50A48V2 on the wall.

CS36D12V Installation Guide

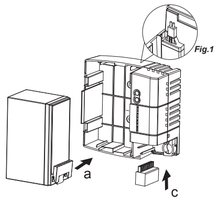


Step 1:
a. Press the battery cover release latch (A) and slide the cover to remove.
b. Remove the 9 pin connector compartment cover by pulling outward.

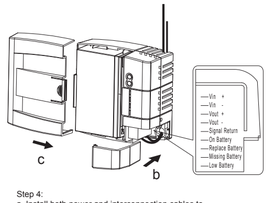


Step 2:
a. Insert the power and interconnection cables into the back cable channel. Feed the cable end into the 9 pin connector compartment.
b. Securely mount the unit on the wall with 2 mounting screws.

NOTE : Please use appropriate size screws to mount the CS50A48V2 on the wall.



Step 3:
a. Remove protective shipping terminal covers from the battery if necessary
b. Connect the battery cable leads to the appropriate terminals; red to postive, black to negative.
c. Insert the battery into the battery compartment.
d. Install the 9 position IDC connector to the unit. (see Fig.1)



Step 4:
a. Install both power and interconnection cables to the 9 position IDC connector (See case for the pin assignments)
b. Close the 9 pin connector compartment cover.
c. Close the battery cover.

The UPS battery charges when it is connected to utility power. The battery charges fully during the first ***24 hours*** of normal operation. Do not expect full battery run capability during this initial charge period.

Operation Guide

Start-Up: Plug the CA50A48V2 power supply into AC Power. The unit is now ready to be placed into service. The CS36D12V has four LED indicators and two control buttons. The table below lists the functions of each.

LED Indicators

Indicator	Color	Condition
Alarm Silence Button	Blue	Press and hold the button for 1second to silence the audible alarm.
Battery Emergency Use Button	Blue	Press and hold the button to activate emergency battery capacity.
Auxiliary Power Source	Green	Indicates that an external power source with adequate voltage (12Vdc) is connected to the CS36D12V.
Replace Battery	Red	Battery replacement required.Alarm will beep once every 15 minutes.
Battery Power	Green	Indicates the battery is supplying the power. At 45% battery capacity, this LED will flash and then alarm will beep 4 times per minute.
System Status	Green	Indicates normal mode of operation.

Status LED, Alarm & Communication Signals

Condition	Status LED	Alarm	Interface	Description
Normal	System LED On		Pin 2,3,4,5 in open collector state.	Condition normal; AC power load, charges battery. Battery is connected and in good condition.
ON Battery	Battery LED On		Pin 2 in Low state	48V input failure or loose connection between power supply and battery board; battery is supplying the power.
Replace Battery	Replace Battery LED On	1/2 sec beep every 15 min	Pin 3 in Low state	Every 45 days, the unit will automatically initiate a battery test. The test lasts 16 hours. If the battery needs to be replaced, an alarm signal will be sent to the Central Office.
Battery Missing		None, only ONT sees alarm	Pin 4 in Low state	Approximately 6 seconds after battery removal, the system initiates battery detection routine. Upon failure, an alarm signal will be sent.
Low Battery	Battery LED Flash	1/2 sec beep every 15 sec	Pin 5 in Low state	When battery capacity is < 45% (approximately 12Vdc), unit signals low battery.

Battery Type

The battery is a standard sealed lead acid battery rated at 12Vdc / 7.2Ah. If required, the battery may be replaced with an approved 12Vdc / 7Ah battery.

Batteries are considered HAZARDOUS WASTE and must be disposed of properly.
Most retailers that sell batteries collect used batteries for recycling.

Auxiliary Power Connection (AUX)

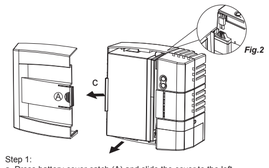
Connection point for customer-supplied DC input voltage (12Vdc). At 45% remaining capacity, the CS36D12V switches from internal battery to external source. The auxiliary power source supplies power to the load (ONT) in the event of 48V input voltage failure and a battery capacity of <45%.

Maintenance Mode

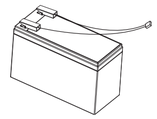
Maintenance mode determines remaining useful battery life. During the 16 hour test, the battery is discharge to determine its state. The unit measures the rate of change in the battery charge. If the rate of discharge is excessive, the battery replacement indicator is activated.

- The CS36D12V enters the maintenance mode approximately once every 45 days.
- In the event that the CS36D12V is in the maintenance mode and an AC failure occurs, maintenance mode will cease and the CS36D12V will supply the power to the load.

CS36D12V Battery Replacement



Step 1:
a. Press battery cover catch (A) and slide the cover to the left to remove.
b. Remove the battery connector.(See Fig.2)
c. Remove the battery strain relief lip to remove battery.



Step 2:
a. Replace battery cable on the new battery.
b. Place the new battery into battery compartment.
c. Close the battery cover.

Specification

Model	CA50A48V2	CS36D12V
Input		
Voltage Range	90 ~ 135Vac	47.5 ~ 52Vdc
Frequency Range	57 - 63Hz	
Surge Protection	Yes	
Output		
Output Voltage (Normal)	47.5 ~ 52Vdc	13.8Vdc
Output Voltage (Battery Mode)		10.5 ~ 13.8Vdc
Output Power Continuous	48W	36W
Ripple	<200 MV RMS	
Connector Type	Insulation Displacement Connector (IDC)	
Battery		
Battery Type	Sealed, Maintenance Free Lead-Acid Battery	
Numbers of Battery	7.2Ah / 12V	
Auxiliary Input Power	12Vdc / 1.3mm COAX Power Jack	
Warning Diagnostics		
Indicators	AC Power	Auxiliary Power Source / Replace Battery / Battery / System
Alarm		AC Fail / Replace Battery Replace Battery / Low Battery
Management		
Communication Interface		Signal Retun / On Battery / Replace Battery / Missing Battery / Low Battery
Physical		
Maximum Dimensions (L*W*D)	3.94 x 2.65 x 1.56 in	6.89 x 6.75 x 3.47 in
Weight (lb)	0.77	1.51
Environment		
Operating Temperature	32°F - 104°F (0 - 40°C)	
Operating Humidity	0 - 95% noncondensing within enclosure	
Max Operating Elevation	10,000ft (3,000m)	
Max Storage Elevation	50,000ft (15,000m)	
Storage Temperature	5°F - 113°F (-15°C - +45°C)	

FCC NOTICE:

This equipment has been tested and found to comply with the limit for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with these instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: (1)Reorient or relocate the receiving antenna. (2) Increase the separation between the equipment and receiver. (3) Connect the equipment into an outlet on a circuit different from that to which the receiver is connected. (4) Consult the dealer or an experienced radio/TV technician for help.

CAUTION: Any changes or modifications not expressly approved by Cyber Power could void the authority granted by the FCC to operate this equipment.

For more information, please contact:
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